

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

**VIRTUAL IMMERSION
TECHNOLOGIES LLC,**

Plaintiff,

v.

**BALFOUR BEATTY PLC AND BALFOUR
BEATTY CONSTRUCTION, LLC**

Defendants.

Civ. No. 6:20-cv-1050

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Virtual Immersion Technologies LLC (“VIT” or “Plaintiff”), by and through its attorneys, hereby alleges for its Complaint on personal knowledge as to its own activities and on information and belief as to all other matters, as follows:

NATURE OF THE ACTION

1. This is an action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. § 1 *et seq.*

THE PARTIES

2. Plaintiff Virtual Immersion Technologies LLC is a limited liability company organized under the laws of the State of Texas.

3. VIT is the current assignee of United States Patent No. 6,409,599 (“the ’599 patent” or “the patent-in-suit.”) On June 25, 2002, the United States Patent and Trademark Office duly and legally issued the ’599 patent. The ’599 patent is titled “Interactive Virtual Reality Performance Theater Entertainment System.” The application leading to the ’599 patent

was filed on July 19, 1999. A true and correct copy of the '599 patent is attached hereto as Exhibit A.

4. On or around February 24, 2016, VIT acquired 100% ownership of all right, title and interest in the patent-in-suit, including the right to bring patent enforcement actions for damages accruing prior to February 24, 2016. The assignment to VIT of ownership of the patent-in-suit was recorded with the United States Patent & Trademark Office ("PTO") on or around August 26, 2016.

5. Defendant Balfour Beatty plc ("Balfour plc") is a foreign corporation having its principal place of business at 5 Churchill Place, Canary Wharf, London E14 5HU. Balfour Beatty plc makes use of virtual and augmented reality technologies worldwide, including in the United States.

6. Defendant Balfour Beatty Construction, LLC ("Balfour US") is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business at 3100 McKinnon Street, Dallas, TX 75201. Upon information and belief, Balfour US is a wholly owned subsidiary of Balfour plc. Balfour US has a regular and established place of business in this District located at 1250 S. Capital of Texas Highway, Bldg. 1, Ste. 250, Austin, TX 78746 and has committed and continues to commit acts of infringement within this District.

7. Balfour US is a subsidiary of Balfour plc. Both defendants, Balfour plc and Balfour US (collectively referred to as "Balfour" or "Defendants") act in concert regarding the allegations set forth in this Complaint and, therefore, the conducts described herein are fairly attributable to either or both entities.

JURISDICTION AND VENUE

8. This is an action for patent infringement arising under the patent laws of the United States, Title 35, United States Code. Jurisdiction as to these claims is conferred on this Court by 35 U.S.C. §§ 1331 and 1338(a).

9. Venue with respect to Defendant Balfour plc is proper in this District under 28 U.S.C. § 1391(c)(3) because Defendant Balfour plc is not a resident of the United States, and that venue is proper as to a foreign defendant in any district. *See In re HTC Corp.*, Appeal No. 2018-130 (Fed. Cir. 2018). Also, under 28 U.S.C. § 1391(b)(2), venue is proper because Balfour plc, imports, sells and offers to sell products and services throughout the United States, including in this District, and introduces products and services into the stream of commerce and effectuates these sales knowing that the products and services would be sold in this District and elsewhere in the United States.

10. This Court has personal jurisdiction over Balfour plc. Balfour plc is amenable to service of summons for this action. Defendant Balfour plc has sought protection and benefit from the laws of the State of Texas by maintaining one or more of its United States affiliates (Defendant Balfour US) in this District and/or by placing infringing products and services into the stream of commerce through an established distribution channel with the awareness and/or intent that they will be purchased by consumers in this District.

11. Balfour plc – directly or through intermediaries (including distributors, retailers, and others), subsidiaries, alter egos, and/or agents – ships, distributes, offers for sale, and/or sells its products and services in the United States and this District. Balfour plc has purposefully and voluntarily placed one or more of its infringing products or services into the stream of commerce with the awareness and/or intent that they will be purchased by consumers in this District. Upon

information and belief, through those activities, Balfour plc has committed the tort of patent infringement in this District.

12. On information and belief, Defendant Balfour plc is subject to this Court's general and specific personal jurisdiction because Balfour plc has sufficient minimum contacts within Texas and this District, because Defendant Balfour plc purposefully availed itself of the privileges of conducting business in Texas and in this District, because Defendant Balfour plc regularly conducts and solicits business within Texas and within this District, and because Plaintiff's causes of action arise directly from Defendant Balfour plc's business contacts and other activities in Texas and this District. Having purposefully availed itself of the privilege of conducting business within this District, Defendant Balfour plc should reasonably and fairly anticipate being brought into court here.

13. Regarding Defendant Balfour US, venue is proper within this District under 28 U.S.C. § 1400(b) because, on information and belief, Balfour US maintains a regular and established place of business in this District and has committed infringing acts in this District.

14. Upon information and belief, Balfour US is subject to this Court's general and specific personal jurisdiction because it has sufficient minimum contacts within the State of Texas and this District, pursuant to due process and/or the Texas Long-Arm Statute, because Defendant Balfour US purposefully availed itself of the privileges of conducting business in the State of Texas and in this District, because Balfour US regularly conducts and solicits business within the State of Texas and within this District, and because Plaintiff's causes of action arise directly from Balfour US's business contacts and other activities in the State of Texas and this District. Having purposefully availed itself of the privilege of conducting business within this District, Balfour US should reasonably and fairly anticipate being brought into court here.

15. Upon information and belief, Defendant Balfour US maintains at least one regular and established place of business in this District: at least part or all of a regional office in this District (the “Texas Office.”) (*See* source: <https://www.balfourbeattyus.com/austin>; last accessed and downloaded November 13, 2020.) The Texas Office is located at 1250 S. Capital of Texas Highway, Bldg. 1, Ste. 250, Austin, TX 78746 within Travis County in this District. (*Id.*)

16. Currently, the Texas Office is publicly associated with Balfour US. (*Id.*) Based at least on these facts, the Texas Office in Austin, Texas is believed to be a regular and established place of business that is associated directly with Balfour US.

17. Balfour US has committed and continues to commit acts of infringement within the state of Texas, as alleged herein.

18. Balfour US is utilizing virtual reality to “reduce project overruns, cut costs and increase margins,” and that this utilization “lowers costs and speeds up construction, offering real potential for savings.” (Source: <https://www.balfourbeatty.com/how-we-work/public-policy/ahead-of-the-curve-innovation-and-productivity-in-construction/>, last accessed and downloaded November 13, 2020.) For example, Balfour US realizes these benefits through the use of VR/AR headsets which has virtual reality functionality. (Source: *See id.*; and *see also* <https://www.balfourbeattyus.com/our-work/solutions-portfolio/january-2018/virtual-reality-goes-viral>; <https://balfourbeattyus.com/our-work/innovation>; and <https://www.balfourbeatty.com/expertise/meet-our-experts/?type=latest&videoid=R4gWpXuPAXo>; all last accessed and downloaded November 13, 2020.) On information and belief, Balfour US uses and develops these virtual reality technologies within the state of Texas and this District. (Source: *See*

[https://www.balfourbeattyus.com/our-work/services-\(1\);](https://www.balfourbeattyus.com/our-work/services-(1);)
<https://www.balfourbeatty.com/expertise/meet-our-experts/?type=latest&videoid=R4gWpXuPAXo>; and <https://www.balfourbeattyus.com/austin>, last accessed and downloaded November 13, 2020.)

19. Therefore, because Balfour US emphasizes its offering and benefits of virtual technologies for its business, uses and develops these technologies within this District, and maintains its presence in this District through its Texas Office, Balfour US has committed and continues to commit acts of infringement within the state of Texas and this District.

20. As previously stated, Defendants currently use virtual and augmented reality systems. (Source: <https://www.balfourbeatty.com/how-we-work/public-policy/ahead-of-the-curve-innovation-and-productivity-in-construction/>; <https://www.balfourbeattyus.com/our-work/solutions-portfolio/january-2018/virtual-reality-goes-viral>; <https://balfourbeattyus.com/our-work/innovation>; and <https://www.balfourbeatty.com/expertise/meet-our-experts/?type=latest&videoid=R4gWpXuPAXo>, last accessed and downloaded November 13, 2020.) This technology includes an immersive virtual reality environment where participants and live performers can interact with each other and the environment via input and output devices for the performers and the participants. (See VIT's Claim Chart for claim 9 of the '599 patent, Ex. B at 1-14.)

21. As detailed in the paragraphs below, Defendants utilize a virtual reality system and practice method for participants and performers to interact in an immersive virtual reality environment, which meets all the features of the asserted claim. (*Id.* at 1-14.)

22. The Defendants' method includes providing at least one performer input and output devices in electronic communication with the virtual environment and one or more

participant input and output devices in electronic communication with the virtual environment. (*Id.* at 3-11.)

23. Defendants' method provides the virtual environment, which includes a video image of one or more live performers with audio communication between the one or more live performers and one or more participants. (*Id.* at 11-13.)

24. In the Defendants' method, the one or more participants interact with the one or more live performers and the virtual environment resulting in an experience partially controlled by the one or more participants using an input device. (*Id.* at 13-14.)

25. Defendants have derived substantial revenues from its infringing acts, including those of Balfour occurring within Texas, including in this District.

26. Balfour US is subject to the Court's personal jurisdiction at least due to its utilization of the virtual reality system within Texas, including in this District.

27. Balfour US has committed such purposeful acts or transactions in Texas and this District such that it reasonably should know and expect that it could be haled into court in this State because of such activities.

28. As detailed in the paragraphs below, Balfour supports the creation, maintenance and utilization of an immersive virtual reality system and practice method, which permits live performers and participants to interact with each other and the environment in the United States, including those infringing actions of Balfour US occurring within the state of Texas, including in this District.

29. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

30. Therefore, venue is proper in this district under 28 U.S.C. § 1400(b) with respect to Defendant Balfour US. Defendant Balfour US maintains a regular and established place of business in this District and has committed infringing acts in this District.

31. For the above reasons, personal jurisdiction exists and venue is proper in this Court for Defendants Balfour plc and Balfour US.

COUNT I

PATENT INFRINGEMENT OF UNITED STATES PATENT NO. 6,409,599

32. Plaintiff incorporates the above paragraphs herein by reference.

33. The '599 patent relates to a system and practice method in which participants interact with a computerized environment in addition to live and/or pre-recorded performers. (*See* Ex. A at 1:20-23.)¹ The '599 patent describes and enables immersive interactive virtual reality computer systems in which participants interact with a virtual reality environment and live performers using a variety of immersion and input devices.” (*Id.* at 1:23-26.)

34. The claims of the '599 patent are directed to tangible embodiments. Claim 9, for example, is a method claim, which clearly requires providing several input/output devices in electronic communication with an immersive virtual reality environment. (*Id.* at 18:61-20:12.)

35. The claims of the '599 patent are directed at providing a unique computing solution that addresses a problem particular to computerized virtual reality systems—providing an immersive interactive virtual reality system in which there exists three-way communication among and between participants, live performers and the virtual reality environment. (*Id.* at 3:24-27.)

¹ Citations to patents in this Complaint refer to columns and lines within columns of any cited patent. For example, the citation referenced by this footnote refers to column 1, at lines 20 through 23, in the '599 patent.

36. Providing an immersive interactive virtual reality system with three-way communication in the manner claimed in the '599 patent solved new challenges over the techniques and systems known in the art at the time. Thus, the claims of the '599 patent contain inventive concepts, being both novel and unconventional, which are sufficient to render the '599 patent claims to be patent-eligible.

37. Prior to the priority date of the '599 patent, in systems, such as traditional virtual reality systems, figures or objects not controlled by participants moved autonomously or, if a participant had an opportunity to interact with such objects in the virtual reality environment, the objects were limited to computer generated images and not live performers. (*Id.* at 1:57-67.)

38. Groups of participants have been entertained by graphically enhanced performers on stage or television. However, these instances occurred through non-immersion mediums without the enhancements of immersion-type devices or methods. (*Id.* at 2:5-9.)

39. Early entertainment systems, which allowed participants to interact with a host and an environment using some input device, did not operate within an immersive virtual reality environment and therefore lacked its immersive effects and their impact on participants. (*Id.* at 2:40-47.)

40. The '599 patent overcame these disadvantages by, for example, describing and enabling a system and method for delivering information “which provides three-way immersive interactive communication amongst and between” participants, an immersive environment and live performers. (*Id.* at 2:55-57.)

41. The inventors of the claimed invention in the '599 patent changed the focus from an interaction between individual participants and computer-generated graphical objects within a virtual reality environment to a three-way communication amongst and between participants, live

or pre-recorded performers, and an immersive virtual reality environment. (*Id.* at 3:11-17.)

The inclusion of three-way communication results in a synergistic effect, which creates an unparalleled experience. (*Id.* at 3:18-22.)

42. Furthermore, the claimed invention of the '599 patent represents an intrinsic improvement to the underlying computer technology involved. The claimed system includes a variety of audio and video components. (*See, e.g.*, claim 1 of the '599 patent.) The variety of audio and video components enable innovative mixing and switching techniques which allows the system to present to each of the participants a virtual reality environment in which a live representation of the performers is superimposed within the environment. (*Id.* at 4:5-9.) The participants are able to view and interact with a novel display of both graphical data and live representations for an exciting experience. (*Id.* at 4:9-12.)

43. The inventors of the '599 patent took considerable personal risks to nurture and prove out the technology systems described in the '599 patent, contributing substantially to today's virtual reality industry explosion.

44. The inventors of the '599 patent have utilized the technology described by the '599 patent for more than ten years, shipping virtual reality systems to five continents and entertaining or educating an estimated 30 million people worldwide with their immersive virtual reality live theater attractions and promotions.

45. The virtual reality theater technology created by the inventors has been recognized and awarded on an international scale, the products winning "Best New Product" and "Best of Show" at the International Association of Amusement Parks and Attractions global convention in Atlanta in November 2000, and again for 'Best of Show' in 2002 in Orlando, as well as national awards for graphics and creativity in the Print Media industry. The products and

concepts have garnered dozens of feature articles in news media promoting clients and their products in a variety of industries.

46. The inventors of the '599 patent continue to have a direct interest in activities related to the '599 patent, working closely with Plaintiff to identify and evaluate entities making use of the technology claimed by the '599 patent without permission or license thereto.

47. The inventions of the '599 patent resolve technical problems related to virtualized interactive technology. For example, the inventions allow parties to interact in a virtual environment in real time with one or more live performers and participants, which, on information and belief, is exclusively implemented using computer technology.

48. The claims of the '599 patent do not merely recite the performance of some method known from the pre-Internet world along with the requirement to perform it on the Internet. Instead, the claims of the '599 patent recite inventive concepts that are rooted in computerized virtual reality technology, and overcome problems specifically arising in the realm of computerized virtual reality technologies.

49. The claims of the '599 patent recite an invention that is not merely the routine or conventional use of computerized communication technology. Instead, the invention makes it possible to interact with one or more live performers and/or participants in a virtualized environment, which does not require the physical presence of either the one or more performers, or participants in order for such interactions to take place. The '599 patent claims thus specify how communication input, output, and system devices are manipulated to yield a virtual, interactive experience controlled in part by one or more participants.

50. The technology claimed in the '599 patent does not preempt all ways of using interactive communications technology, nor preempt the use of any well-known communications technology, nor preempt any other well-known or prior art technology.

51. The '599 patent claims are not directed to any “method of organizing human activity,” “fundamental economic practice long prevalent in our system of commerce,” nor are any of the claims “a building block of the modern economy.”

52. The '599 patent does not take a well-known or established business method or process and “apply it to a general purpose computer.” Instead, the specific systems and processes described in the '599 patent have no direct corollary to a process that predates the advent of the Internet.

53. The '599 patent claims are directed toward a solution rooted in computer technology and uses technology, unique to computers and networks, to overcome a problem specifically arising in the realm of computerized virtual reality technologies.

54. The '599 patent claims are not directed at a mere mathematical relationship or formula.

55. The '599 patent claims cannot be performed by a human, in the human mind, or by pen and paper.

56. Accordingly, each claim of the '599 patent recites a combination of elements sufficient to ensure that the claim in practice amounts to significantly more than a patent on an ineligible concept.

57. Upon information and belief, Balfour directly infringes and continues to directly infringe at least claim 9 of the '599 patent, in the United States, under 35 U.S.C. § 271(a) by making, using, selling, offering to sell, importing and/or providing and/or causing to be used an

interactive, real time, virtual reality systems system and its practice method (*See* Balfour is utilizing augmented reality to “reduce project overruns, cut costs and increase margins,” and that this utilization “lowers costs and speeds up construction, offering real potential for savings,” (source: <https://www.balfourbeatty.com/how-we-work/public-policy/ahead-of-the-curve-innovation-and-productivity-in-construction/>, last accessed and downloaded November 13, 2020), along with related systems and software for access and use of such systems and methods (the “Accused Instrumentalities”) as in claim 9 of the ’599 patent. (*See* VIT’s Claim Chart for claim 9 of the ’599 patent, Ex. B at 1-14.)

58. On information and belief, Defendants Balfour are a for-profit organization with revenues of approximately \$11 billion U.S.D. per year. Moreover, Balfour, its employees and/or agents make, use, sell, offer to sell, import, and/or provide and/or cause to be used the Accused Instrumentalities for Defendants’ partners and customers, leading to direct or indirect revenues and profit. As one example of indirect profit, Balfour utilizes the system to reduce costs by increasing the speed of design and project time. On information and belief, without the availability of infringing tools such as the Accused Instrumentalities, Defendants would be at a disadvantage in the marketplace and would generate less revenue and profit overall.

59. In particular, claim 9 of the ’599 patent generally recites a method of providing interactive communications between participants and performers comprising the steps of providing an immersive virtual reality environment; providing performer and participant input and output devices in communication with the immersive virtual reality environment; having the live performer interact with the participant and immersive virtual reality environment by including a live or prerecorded image of the live performer and audio communication between the live performer and the participant or between the participant and live performer or both;

having the participant interact with the live performer producing an experience controlled by the participant and participant input device. (*Id.* at 3-14.)

60. Balfour provides a method of providing interactive communications between participants and performers. (*Id.* at 3-5.)

61. The method provided by Balfour includes providing an immersive virtual reality environment. (*Id.* at 5-7.)

62. Balfour's method also includes providing at least one performer input device in electronic communication with said immersive virtual reality environment. (*Id.* at 7-8.)

63. Balfour's method further includes providing at least one participant input device in electronic communication with said immersive virtual reality environment. (*Id.* at 8-9.)

64. Additionally, Balfour's method includes providing at least one performer output device in electronic communication with said immersive virtual reality environment. (*Id.* at 9-10.)

65. Defendants' method also includes providing at least one participant output device in electronic communication with said immersive virtual reality environment. (*Id.* at 10-11.)

66. The method provided by Balfour also includes having at least one live performer interact with at least one participant and said immersive virtual reality environment, by including with said virtual reality environment a live or prerecorded video image of said at least one live performer and audio communication between said at least one live performer and said at least one participant, or between said at least one participant and said at least one live performer, or both. (*Id.* at 11-13.)

67. Balfour's method also includes having at least one participant interact with at least one such live performer and said immersive virtual reality environment, thereby resulting in

an experience which is in part controlled by said at least one participant and said at least one participant input device. (*Id.* at 13-14.)

68. Defendants were made aware of the '599 patent and its infringement thereof at least as early as the filing and service of this Complaint. Despite Plaintiff's notice to Balfour by this Complaint regarding the '599 patent, the Defendants continue to infringe the '599 patent.

69. Upon information and belief, since at least the time it received notice by this Complaint, Balfour's infringement has been and continues to be willful.

70. Plaintiff VIT has been harmed by each of Balfour's infringing activities with respect to the '599 patent.

71. VIT reserves the right to modify its infringement theories as discovery progresses in this case. It shall not be estopped for purposes of its infringement contentions or its claim constructions by the claim charts it provides with this Complaint. VIT intends the claim chart (Exhibit B) for the '599 patent to satisfy the notice requirements of Rule 8(a)(2) of the Federal Rule of Civil Procedure. The claim chart is not VIT's preliminary or final infringement contentions or preliminary or final claim construction positions.

JURY DEMAND

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Plaintiff demands a trial by jury on all issues triable as such.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff demands judgment for itself and against Defendants as follows:

- A. An adjudication that Defendants have infringed the '599 patent;
- B. An award of damages to be paid by Defendants adequate to compensate Plaintiff for Defendants' past infringement of the '599 patent, and any continuing or future infringement

through the date such judgment is entered, including interest, costs, expenses and an accounting of all infringing acts including, but not limited to, those acts not presented at trial;

C. A declaration that this case is exceptional under 35 U.S.C. § 285, and an award of Plaintiff's reasonable attorneys' fees; and

D. An award to Plaintiff of such further relief at law or in equity as the Court deems just and proper.

Dated: November 13, 2020

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/s/ Alex Chan

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